

34  
--44. (New) The exposure apparatus of claim 37, wherein each of the plurality of fiducial marks of the second mark portion comprises a two dimensional mark.--

---

REMARKS

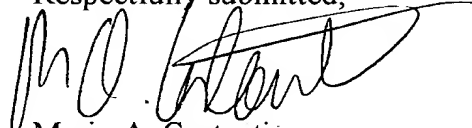
Claims 1-44 are pending. By this Amendment, claims 8, 13, 24-29 and 32 are amended and claims 33-44 are added. The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

Claims 13 and 32 are written in independent form and amended to cover additional subject matter disclosed by this application. Claims 8 and 24-29 are amended for clarity and to correct obvious typographical informalities. Claims 33-44 are added as new dependent claims, which depend from independent claim 13.

The Examiner is requested to considered the references submitted in the attached Information Disclosure Statement, as well as the references submitted with the March 7, 2001 Information Disclosure Statement.

Examination and allowance in due course are earnestly solicited.

Respectfully submitted,



Mario A. Costantino  
Registration No. 33,565

MAC/srh

Attachments:

Appendix  
Amendment Transmittal  
Information Disclosure Statement

Date: January 28, 2003

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p><b>DEPOSIT ACCOUNT USE AUTHORIZATION</b> Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
---

## APPENDIX

## Changes to Claims:

The following is a marked-up version of the amended claims:

8. (Amended) The stage assembly of claim 7 wherein the control system utilizes the measured position of the first fiducial mark relative to the first X mirror and the second X mirror, and the measured position of the second fiducial mark relative to the first X mirror and the second X mirror to determine the position of the first X mirror relative to the second X mirror.

13. (Amended) An exposure apparatus ~~including the stage assembly of claim 1,~~ comprising:

a first movable stage that moves in a first direction and a second direction different from the first direction, the first movable stage holding a first substrate and having a first reflective portion extending in the first direction, a second reflective portion parallel to the first reflective portion, and a first mark portion having a plurality of fiducial marks;

a first position detector that detects a position of the first movable stage cooperating with the first reflective portion;

a first mark detector that detects the plurality of fiducial marks when the first position detector detects the position of the first movable stage;

a second position detector that detects a position of the first movable stage cooperating with the second reflective portion;

a second mark detector that detects the plurality of fiducial marks when the second position detector detects the position of the first movable stage;

a projection system that projects a pattern onto the first substrate; and

a controller that communicates with the first position detector, the second position detector, the first mark detector, and the second mark detector to correlate the first reflective portion with the second reflective portion.

24. (Amended) A method for making a stage assembly that moves a device, the method comprising the steps of:

~~retaining the device with~~ providing a device table for retaining the device;

connecting a stage mover assembly to the device table, the stage mover assembly moving the device table;

~~monitoring the position the device table with~~ providing a measurement system that monitors a position of the device table, the measurement system including a first X mirror, a second X mirror, and a Y mirror that are secured to the device table;

~~securing~~ providing a first fiducial mark and a second fiducial mark to ~~for~~ the device table; and

~~determining~~ providing a controller that determines the position of the first X mirror relative to the second X mirror using the first fiducial mark and the second fiducial mark.

25. (Amended) The method of claim 24 wherein the ~~step of determining~~ controller determines the position ~~includes the step of~~ by measuring (i) the position of the first fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror, and (ii) the position of the second fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror.

26. (Amended) The method of claim 25 wherein the ~~step of determining~~ controller determines the position of the first X mirror relative to the second X mirror ~~includes by~~ utilizing the measured position of the first fiducial mark relative to the first X mirror, the

second X mirror, and the Y mirror, and the measured position of the second fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror.

27. (Amended) The method of claim 24 ~~including the step of securing further comprising providing~~ a third fiducial mark ~~to for~~ the device table, the third fiducial mark also being used to determine the position of the first X mirror relative to the second X mirror.

28. (Amended) The method of claim 27 wherein the ~~step of determining controller determines~~ the position ~~includes the step of by~~ measuring (i) the position of the first fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror, (ii) the position of the second fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror, and (iii) the position of the third fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror.

29. (Amended) The method of claim 28 wherein the ~~step of determining controller determines~~ the position of the first X mirror relative to the second X mirror ~~includes by~~ utilizing the measured position of the first fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror, the measured position of the second fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror, and the measured position of the third fiducial mark relative to the first X mirror, the second X mirror, and the Y mirror.

32. (Amended) A method of making a device ~~including at least the exposure process: wherein the exposure process utilizes the exposure apparatus made by the method of claim 30 comprising the steps of:~~

providing a first movable stage that moves in a first direction and a second direction different from the first direction, the first movable stage holding the device and having a first reflective portion extending in the first direction, a second reflective portion parallel to the first reflective portion, and a first mark portion having a plurality of fiducial marks;

providing a first position detector that detects a position of the first movable stage cooperating with the first reflective portion;

providing a first mark detector that detects the plurality of fiducial marks when the first position detector detects the position of the first movable stage;

providing a second position detector that detects a position of the first movable stage cooperating with the second reflective portion;

providing a second mark detector that detects the plurality of fiducial marks when the second position detector detects the position of the first movable stage;

providing a controller that communicates with the first position detector, the second position detector, the first mark detector, and the second mark detector to correlate the first reflective portion with the second reflective portion;

exposing a pattern onto the device by a projection system; and

assembling the device on which the pattern has been formed.